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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/086,915

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Robert C. Knauerhase

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EXAMINER

WILLETT, STEPHAN F

ART UNIT

PAPER NUMBER

2142

DATE MAILED: 08/11/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/086,915

Applicant(s)

KNAUERHASE ET AL.

Examiner

Stephan F Willett

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 February 2002.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-35 is/are pending in the application.
4a) Of the above claim(s) 9-29 is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-8 and 30-35 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Election/Restriction

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:

I. Claims 1-8, 30-35, drawn to modifying beacon intervals, are classified in class 709, subclass 225.

II. Claims 9-13, drawn to modifying beacon intervals with mobile devices, are classified in class 709, subclass 226.

III. Claims 14-19, 27-29, drawn to determining the amount to modify a beacon level, are classified in class 709, subclass 224.

IV. Claims 20-22, drawn to determining the amount to modify interdependent access points' beacons' levels, are classified in class 709, subclass 240.

V. Claims 23-26, drawn to determining the amount to modify a beacon level based on capacity information, are classified in class 709, subclass 235

2. The inventions are distinct, each from the other because:

The claims in Group I involve steps to modify beacon intervals, while the claims in Group II specifically involve modifying beacon intervals with mobile devices, which is classified in a different class from Group I, while the claims in Group III involve determining the amount to modify a beacon level which is classified in a different subclass from Group I and II, while the claims in Group IV involve determining the amount to modify interdependent access points' beacons' levels which is classified in a different subclass from Group I-III, while the claims in

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Group V involve determining the amount to modify a beacon level based on capacity information which is classified in a different subclass from Group I-IV.

3. Inventions I-V are related as subcombinations disclosed as usable together in a single combination. The subcombinations are distinct from each other if they are shown to be separately usable. In the instant case, invention I has separate utility such as modify beacon intervals. In the instant case, invention II has separate utility such as to modify beacon intervals with mobile devices. In the instant case, invention III has separate utility such as to determine the amount to modify a beacon level. In the instant case, invention IV has separate utility such as to determine the amount to modify interdependent access points' beacons' levels. In the instant case, invention III has separate utility such as to determine the amount to modify a beacon level based on capacity information. See MPEP § 806.05(d).

4. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

5. Because these inventions are distinct for the reasons given above and the searches required for Group I is not required for Groups II or III, restriction for examination purposes as indicated is proper.

6. Applicant is advised that the reply to this requirement to be complete must include an election of the invention to be examined even though the requirement may be traversed (37 CFR 1.143).

7. Applicant's election without traverse of Group I by Aflam Jaffery by telephone on 3/25/2005 is acknowledged.

Claim Rejections - 35 USC § 101

1. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

2. Claim(s) 30-33 is/are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

1. Claims that may depend on the use of a signal or carrier wave to achieve their functionality are deemed to be non-statutory subject matter as described in the applicant's specification para. 19.

Claim Rejections - 35 USC 103

1. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103 and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1- 8, 30-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ho with Patent Publication US 2002/0071449.

4. Regarding claim(s) 1, 30, 33, Ho teaches determining a need to change a load of a first access point, para. 30 in a plurality of access points, para. 33 and Fig. 1 DS 150, the first access point corresponding to a first beacon interval, para. 11. Ho teaches the invention in the above claim(s) except for explicitly teaching modifying, increasing or decreasing beacon intervals. Ho specifically teaches “at an interval of adjustable duration, the centralized controller polls the stations”, para. 9. The beacon interval is how often stations are polled. Further, Ho suggests “each polled station is then guaranteed to have time on the medium in line with its QOS expectations”, para. 9 which will result from implementing his differing beacon intervals. Thus, it would have been obvious to one of ordinary skill in the art to alter beacon intervals similar to how CFPs, CFs and transmission times are altered Ho’s IEEE 802.11 system. Ho suggests that altering beacon intervals insures loads are maintained similar to the way the loads are maintained by altering CFPs, CFs and transmission times. Therefore, by the above rational, the above claim(s) are rejected.

5. Regarding claim(s) 2, Ho teaches determining a need to reduce the load, page 2-3, col. 2-1, para. 0030 and increasing the beacon interval, para. 11; para. 0065.

6. Regarding claim(s) 3, 32, 35, Ho teaches a second access point with a second beacon level, para. 0034 and decreasing the beacon interval, page 6, col. 1, para. 0065.

7. Regarding claim(s) 4, 7, 31, 34, Ho teaches increasing the beacon level until a threshold is met as “specified ranges”, para. 50; para. 0082.

8. Regarding claim(s) 5, Ho teaches thresholds such as capacity, para. 0035.

9. Regarding claim(s) 6, Ho teaches thresholds such as number of clients, para. 0033.
10. Regarding claim(s) 8, Ho teaches thresholds such as a normal interval as the “delay becomes noticeable”, para. 0007.

Claim Rejections - 35 USC 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-4, 7, and 30-35 are rejected under 35 U.S.C. 102(b) as being anticipated by Trompower, U.S. Patent No. 6,088,591.
3. Regarding claim 1, Trompower anticipates the claimed invention by teaching a network (Fig. 3 wireless network) having a plurality of access points (Fig. 3 elem. 154 at the top of the figure and 156) wherein the first access point (Fig. 3 elem. 154) has a first beacon interval (col. 3 lines 25-34). Trompower teaches the step of determining a need to change a load of a first access point (col. 38 lines 47-67, particularly lines 50-51 with "amount of activity" as the load). Trompower therefore teaches the step of determining a need to change a load of a first access point in a network having a plurality of access points, including the first access point corresponding to a first beacon interval. Trompower teaches the step of modifying the first beacon interval (col. 38 lines 47-67, particularly lines 57-61).
4. Regarding claim 2, Trompower teaches a method wherein said determining a need to change the load of the first access point comprises determining a need to reduce the load of the

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first access point, and wherein said modifying the first beacon interval comprises increasing the first beacon interval (col. 38 lines 57-59).

5. Regarding claim 3, Trompower teaches a method wherein the network additionally includes a second access point (Fig. 3 elem. 156) corresponding to a second beacon interval (col. 3 lines 25-34), and the method comprises decreasing the second beacon interval (col. 38 lines 59-61).

6. Regarding claim 4, Trompower teaches a method comprising further increasing the first beacon interval at future times until a threshold condition is met (Fig. 20 transition from elem. 810 YES to elem. 800 showing increase of beacon interval to threshold condition of 2/channel).

7. Regarding claim 7, Trompower teaches a method additionally comprising after a period of time, increasing the load of the first access point by decreasing the first beacon interval at future times until a threshold condition is met (col. 39 lines 1-36).

8. Regarding claims 30-32, they are machine readable media claims corresponding to method claims 3, 4 and 7, respectively. Since they do not teach or define above the information in the corresponding method claims, they are rejected under the same basis.

9. Regarding claim 33-35, they are apparatus claims corresponding to method claims 3-4 and 7, respectively. As to the additional limitations of the at least one processor and a machine-readable medium having instructions encoded thereon, which when executed by the processor, are capable of directing the processor to perform certain steps, the processor is taught at Trompower col. 10 lines 4-8 and the machine-readable medium is taught at Trompower col. 10 lines 9-13). As to the limitations that correspond to the method steps of claims 3-4 and 7, the applicant is directed to the reasons for rejection given above.

Conclusion

1. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure is disclosed in the Notice of References Cited. A close review of the references is suggested. A close review of the Shida et al. reference with Patent Number 6,014,406 is suggested. The other references cited teach numerous other ways to change transmission intervals, thus a close review of them is suggested.
2. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephan Willett whose telephone number is (571) 272-3890. The examiner can normally be reached Monday through Friday from 8:00 AM to 6:00 PM.
3. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Caldwell, can be reached on (571)272-3868. The fax phone number for the organization where this application or proceeding is assigned is (571)273-8300.
4. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571) 272-2100.

sfw

August 9, 2006



ANDREW CALDWELL
SUPERVISORY PATENT EXAMINER